SMOOTHING CALIBRATION FILES TO IMPROVE REPRODUCTION OF DIGITIZED IMAGES

ABSTRACT OF THE INVENTION

5   A method, system and computer article are presented for smoothing an image calibration signal in order to smooth a reproduced signal, and to identify the presence of any remaining spikes or other significant deviations. The invention recognizes the problems with raw calibration

10   signals, and posits that the calibration signals be filtered by methods and systems described. For example, calibration data may be smoothed by fitting the calibration data to a parametric model employing either linear or non-linear least squares. Alternate techniques

15   implement smoothing using optimal filtering. An aspect of the invention is a method, computer product or article of manufacture for improving an initial calibration profile having an initial profile extent to form an improved calibration profile. The initial profile may be

20   formed for a scanner employing a linear array CCD and having a particular direction of motion. One method includes forming an extended profile extent in the direction of motion using quadratic extrapolation, applying multirate filtering to the extended profile to

25   form a filtered profile, and truncating the filtered profile to bring it to the initial profile extent to form the improved calibration profile.